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Heart Failure and Cardiomyopathies

ECHOCARDIOGRAPHIC ASSESSMENT OF RIGHT VENTRICULAR FUNCTION IN A ROUTINE PRACTICE: WHICH PARAMETERS ARE USEFUL TO PREDICT ONE-YEAR OUTCOME IN ADVANCED HEART FAILURE PATIENTS WITH DILATED CARDIOMYOPATHY?

Poster Contributions

Poster Hall B1

Monday, March 16, 2015, 9:45 a.m.-10:30 a.m.

Session Title: Moving Towards Better Management of Heart Failure

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Background: Right ventricular (RV) function has gained attention recently as a prognostic predictor even in patients who used to be considered as left-side heart failure. However, echocardiographic parameters for assessing RV function in a routine practice has not been firmly established yet, while several parameters has been proposed. We compared conventional echocardiographic parameters for assessing RV function (fractional area change; FAC, tricuspid annular plane systolic excursion; TAPSE, tissue Doppler derived systolic tricuspid annular motion velocity; RV-S') to predict one-year outcome in advanced heart failure patients with dilated cardiomyopathy.

Methods: We enrolled 48 dilated cardiomyopathy patients with left ventricular ejection fraction (LVEF) < 35% who were admitted to our hospital for evaluation or treatment of heart failure. All patients underwent coronary angiography and myocardial biopsy. Primary cardiac events were defined as left ventricular assist device implantation or cardiac death within one-year after echocardiography.

Results: All patients were classified as New York Heart Association class III or IV. Twenty-three events occurred (3 deaths, 20 left ventricular assist devices). Univariate analysis showed that age, male gender, systolic blood pressure, LVEF, E-wave deceleration time, FAC and inferior vena cava diameter were predictors of outcome, whereas TAPSE, RV-S' and tricuspid regurgitation velocity were not. Although positive correlations were observed between FAC, TAPSE and RV-S' each other, only FAC showed prognostic value. From the receiver-operating characteristics curve, cut-off value of FAC to predict outcome was 26% (area under the curve = 0.74). Kaplan-Meier analysis showed that one-year event rate was significantly higher (log-rank, $p < 0.01$) in patients with FAC < 26% than in those with FAC \geq 26%.

Conclusion: Although FAC, TAPSE and RV-S' may reflect a common part of RV function, FAC may provide better prognostic information in advanced heart failure patients with dilated cardiomyopathy than TAPSE or RV-S'.